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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,973	09/11/2003	Eric D. Groen	X-1419 US	5050
24309	7590	06/08/2005	EXAMINER	
XILINX, INC ATTN: LEGAL DEPARTMENT 2100 LOGIC DR SAN JOSE, CA 95124			WAMSLEY, PATRICK G	
			ART UNIT	PAPER NUMBER
			2819	

DATE MAILED: 06/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/659,973

Applicant(s)

GROEN ET AL.

Examiner

Patrick G. Wamsley

Art Unit

2819

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04/19/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) 17-34 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-8 is/are allowed.
- 6) ☒ Claim(s) 9,10,35 and 36 is/are rejected.
- 7) ☒ Claim(s) 11-16 and 37 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04/19/2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 02/10/2004.
- 4) ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date 06/03/2005.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election of Species

Claims 17-34 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to nonelected species, there being no allowable generic or linking claim. Applicant's election with traverse of the species depicted in Figure 4, readable upon claims 1-8 and 35-37, in the reply filed on 04/19/2005 is acknowledged. The traversal is on the grounds that claims 1-8 are generic to claims 9-16. The examiner accepts this argument, so claims 1-16 and 35-37 have been examined.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Drawings

The drawings are objected to under 37 CFR 1.83(a). While the drawings filed on 04/19/2005 do correct the spelling errors noted in the last Office Action, the drawings must show every feature of the invention specified in the claims. Therefore, the latches must be shown or canceled from claim 8. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

Claims 1, 2, and 9 are objected to because of the following informalities:

Claim 1, line 3: Change "when width" to -- when the width --.

Claim 2, line 11: Change "when width" to -- when the width --.

Claim 9, line 20: Change "when width" to -- when the width --.

Appropriate correction is required.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 9 and 10 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2, 4, and 5 of copending Application 10/661,016. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following reasons.

Independent Claim 9 in this application recites two attachment modules [38 / 40: Fig. 2], two sublayer modules [42 / 44: Fig. 2], and a programmable logic fabric [12: Fig. 1], wherein one module [38] includes a data path [80: Fig. 3] and a line driver [89: Fig. 3], wherein the data path [80] includes a timing circuit [82] and a parallel to serial module [84]. In 10/661,016, attachment modules [PMA: claim 2], sublayer modules [PCS: claim 5] and a programmable logic fabric section [claim 1] are present. Claim 4 provides a serial-to-parallel module for a transmit PMA module.

Unlike claim 9 of this application, the claims of 10/661,016 do not recite a line driver and a timing circuit. Regarding the line driver, 10/661,016 discloses this element [142: Fig. 6] as needed for transmitting the serial data stream [156] from the claimed parallel to serial module [140]. Regarding the timing circuit, it would have been obvious for one of ordinary skill in the art at the time of the invention to have designed the PLL [144] of 10/661,016 to provide appropriate clock signals. Such programmable settings would have been designed to support particular standards [¶74, column 8]. Thus, assigning clock signals according to relative widths of parallel input data would have been an obvious modification of 10/661,016.

For dependent claim 10, 10/661,016 discloses a PLL [Figure 6: 144] and two clock divider modules [152 / 154].

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 35 and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,726,990 to Shimada et al, hereafter Shimada.

For claim 35, Shimada discloses a programmable timing circuit comprising a phase locked loop [inherent, source of Shimada's high-speed clock input signal], and a

Art Unit: 2819

programmable clock divider module [5 / 5b], generating first and second parallel data clocks based upon clock select signals.

For claim 36, Shimada provides an intermediate data clock. More specifically, Shimada provides two dividers [5 / 5b], thereby generating two parallel clocks that are multiples of each other, satisfying the claim limitations. These signals are respectively applied to multiplexers [1 / 2] for the parallel input data and to an intermediate multiplexer [3] preceding production of the serial output data.

Allowable Subject Matter

Claims 1-8 are allowed.

Claims 11-16 and 37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the references of record neither reveal nor render obvious the recited combination including generation of different parallel data clocks for a parallel-to-serial converter on the basis of multiple data widths. For claims 11-16 and 37, the prior art of record lacks the claimed combination of a multiplexer, NOR gate, and flip-flops.


Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 6,788,127 to Sato couples a PLL [114] to a parallel / serial converter [112]. U.S. Patent 6,701,396 to Okajima presents a parallel-to-serial converter having strobe signals. U.S. Patent 6,701,726 to Kim et al uses a PLL [140]

Art Unit: 2819

to time a serializer circuit. U.S. Patent 6,336,181 to Fuzisawa et al uses flip-flop circuits with a parallel / serial converter. U.S. Patent 6,335,696 to Aoyagi et al shows a parallel-to-serial converter having a frequency divider. U.S. Patent 6,169,500 to Eriksson et al discloses a parallel to serial converter having a frequency divider. U.S. Patent 5,808,571 to Kuwata et al synchronizes parallel / serial converters with first and second clock signals. U.S. Patent 5,726,651 to Belot uses multiple clocks when serializing parallel data. U.S. Patent 5,675,584 to Jeong shows a clock generator for a parallel to serial converter. U.S. Patent 5,247,652 to Uda presents a parallel to serial converter having multiple latches. U.S. Patent 4,445,215 to Svendsen provides programmable frequency ratios for a parallel-to-serial converter. U.S. Patent 4,236,830 to Schlig describes parallel / serial charge transfer techniques.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick G. Wamsley whose telephone number is (571) 272-1814. The official facsimile number is (703) 872-9306. An alternate facsimile number, (571) 273-1814, should only be used for unofficial documents.


Patrick G. Wamsley
June 3, 2005